

What is claimed is:

1. **An activated semi-crystalline, largely isotropic, coal-based carbon foam produced from particulate coal exhibiting a free swell index of between about 3.5 and about 5.0 and of a small diameter, having a density of between about 0.1 and about 0.8 g/cm³ and an overall surface area of between about 10 m²/g and about 25 m²/g.**
2. **The activated coal-based carbon foam of claim 1 having an overall surface area of between about 15 m²/g and about 20 m²/g.**
3. **The activated coal-based carbon foam of claim 1 wherein said coal exhibits a free swell index of between about 3.75 and about 4.5.**
4. **The activated coal-based carbon foam of claim 3 having an overall surface area of between about 15 m²/g and about 20 m²/g.**
5. **The activated coal-based carbon foam of claim 1 wherein said coal-based carbon foam has been calcined.**

6. The activated coal-based carbon foam of claim 1 wherein said coal-based carbon foam has been graphitized.

7. A monolithic activated carbon filter element comprising an activated semi-crystalline, largely isotropic, coal-based carbon foam produced from particulate coal exhibiting a free swell index of between about 3.5 and about 5.0 and of a small diameter, having a density of between about 0.1 and about 0.8 g/cm³ and an overall surface area of between about 10 m²/g and about 25 m²/g.

8. The monolithic activated carbon filter element of claim 7 having an overall surface area of between about 15 m²/g and about 20 m²/g.

9. The monolithic activated carbon filter element of claim 7 wherein said coal exhibits a free swell index of between about 3.75 and about 4.5.

10. The monolithic activated carbon filter element of claim 9 having an overall surface area of between about 15 m²/g and about 20 m²/g.

11. **The monolithic activated carbon filter element of claim 7**
wherein said coal-based carbon foam has been calcined.

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12. **The monolithic activated carbon filter element of claim 7**
wherein said coal-based carbon foam has been graphitized.

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